



# *There's Something In The Air*

**Some things children and parents living along the Arizona/Sonora Border  
need to know to protect children from environmental health risks**

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

**T**his brochure was produced by the Arizona Department of Environmental Quality's Children's Environmental Health Project as part of a special project to educate families living along the Arizona/Sonora Border of environmental health threats to children. Schools on both sides of the border are encouraged to use the brochure as an educational tool to bring greater awareness by students and their parents of the environmental health challenges they may face and what parents can do to protect themselves and their children. Funds were provided through a grant by the U.S. Environmental Protection Agency.



Arizona Department  
of Environmental Quality

Janet Napolitano, Governor  
Stephen A. Owens, ADEQ Director



## Children in the Arizona/Sonora Border Region Share a Lot

Children on both sides of the Arizona/Sonora Border live in one of the most beautiful and richly diverse areas of the world, and they also share other characteristics of the Border Region – a hot and dry climate, scarce water resources, and air pollution.

### Border Children Share the Air They Breathe

The health of all children can be threatened by air that is dirty. In fact, children's smaller bodies take in more air as they breathe. Their smaller lungs can be forced to work harder against those pollutants that we bring into our bodies. Children can also kick up dirt, which can expose them to dust pollution.

### A Way of Life for Many

Children living along the border might be surprised to learn that those particles in the air that invade their respiratory systems originate through activities common in their lives. Among them are random tossing and burning of old tires, garbage and trash. Even playing around the many unpaved roads in the region can cause health problems for themselves and their families.

*When children already have asthma or other respiratory ailments, exposure to air pollution can increase their health problems.*



## What's in the Air Along Our Border?



**Asthma attacks can be triggered by carbon monoxide, ozone emissions, and particulate matter. Respiratory-related hospital admissions and emergency room visits go up when air pollution levels are high; and acute respiratory symptoms including severe chest pain, gasping and aggravated coughing increase.**

**Particulate Matter (PM)** is classified as PM10 and PM2.5. PM10 is coarse particles (dust from unpaved roads and soil erosion) and PM2.5 is small particles (airborne smoke, soot, and vehicle exhaust). Small particles are more harmful because they travel more deeply into the lungs. PM is a concern on a city-wide basis in some border communities such as Ambos Nogales. Air can be harmful near unpaved roads, brick kilns, diesel truck traffic or in places with indoor smoke.

**Carbon monoxide (CO)** is a colorless, odorless gas produced primarily by motor vehicles, but also can be emitted by gas heaters, burned wood and charcoal. CO is dangerous. While it doesn't cause asthma, exposure to high levels can cause confusion and drowsiness and even death when in confined spaces like a room, storage space, or garage.

**Pesticides** are applied to agricultural fields as aerosols, liquid sprays or powders in order to kill unwanted plants or bugs. Some pesticides can trigger asthma attacks, and most pesticides can be harmful in other ways if used improperly or excessively.

**Indoor Air Pollutants**, in addition to pesticides and carbon monoxide, various other things sometimes found inside the home can cause health problems. These include second-hand smoke; new carpets, plywood, furniture and wallpaper, and some consumer products such as glues, cleaning supplies, and moth balls.

These and other pollutants can cause asthma attacks.

## What Can Kids in Our Border Area Do?

If you have asthma symptoms, you should try and **avoid** exposure to the pollution “**triggers**” in your area.

You should **stay away from open fields** where winds can whip up soil that carries particulates and sometimes pesticides into the air you breathe.

**Play inside** on very windy days or very cold mornings when there might be a lot of wood smoke in the air.

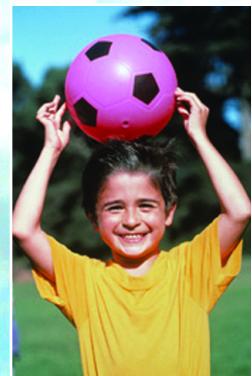
To avoid breathing harmful pollutants when riding in a car or truck, keep the windows closed, if possible, and **don't ride in the bed of a pick-up truck**.

Help **plant native plants** around your home and school to keep dust down.

Leave the window open a couple of inches in rooms where a gas heater is being used.

If you spill something you’re eating or drinking, help clean it up right away so it won’t attract pests. **Pesticides can lead to asthma attacks.**

**Avoid** watching **crop dusting airplanes**, they are spraying pesticides.



## How Can Grownups Protect Children Indoors and Outdoors?

Family ties are strong in the border area. Parents and other grownups can learn about air pollution and then use their creativity to help children **find ways to play and study that reduce their exposure to air pollutants.**

If you have children with asthma, help them to know their “triggers” and eliminate as many as possible. Learn proper use of your children’s **asthma medicines** and teach them about it, too.



You should **keep your car in good running condition** to reduce harmful air pollution. If possible, combine errands and plan your trips for the most efficient route. You should carpool to work, or ride the bus. **Keep your children away from bus exhaust.** Pollution from buses and trucks can be harmful.

Keep your **homes clean and your food in sealed containers** so it will be safe from pests and pesticide sprays. Turn cleaning into a game that involves your kids.

Clean nooks and crannies, and caulk gaps and cracks, so that pests can’t get in or find hiding places, thereby **reducing the use of pesticides.**

**Don't burn garbage or yard waste** when children are nearby. Try to keep the kids from breathing the smoke if you use wood burning stoves for heating or cooking.

If you work in agricultural fields **where pesticides are used**, then try to keep your field clothes at the work site or **change your work clothes before playing** with your children.

Contact Ward Jacox, Special Assistant for Children’s Environmental Health at **(602) 771-2231** or e-mail: [wbj@azdeq.gov](mailto:wbj@azdeq.gov) to learn more or get involved, or go to the Arizona Department of Environmental Quality (ADEQ) Web site at: [www.azdeq.gov](http://www.azdeq.gov).